Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

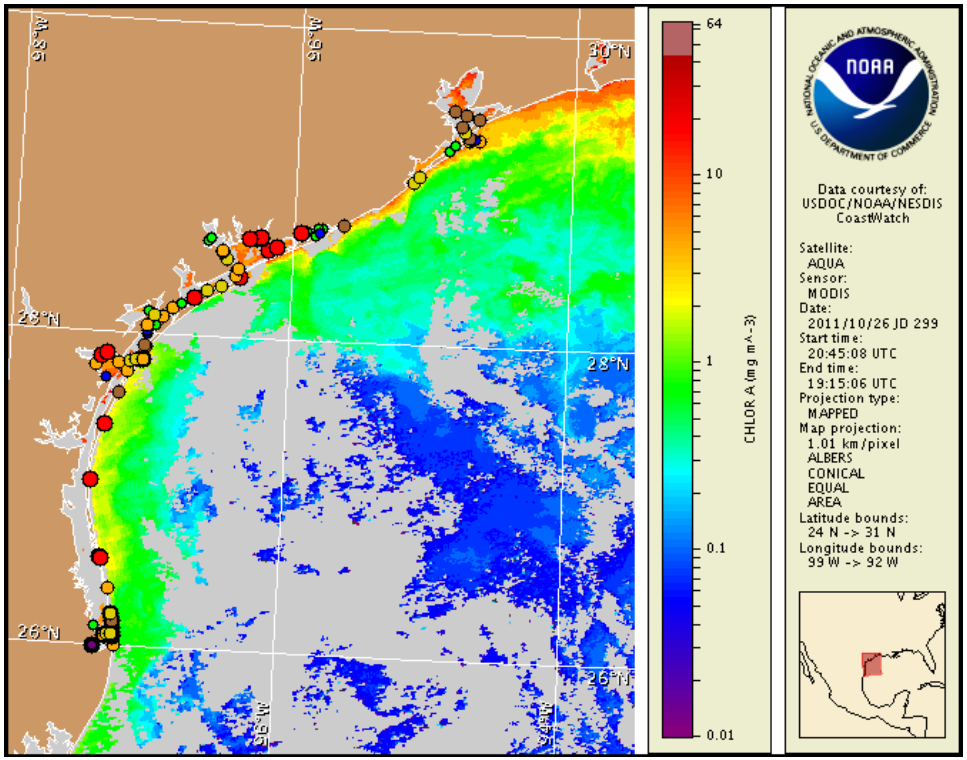
Thursday, 27 October 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, October 24, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from October 17 to 26 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area. Patchy high impacts are possible today through Sunday along the Padre Island National Seashore and South Padre Island regions, today through Saturday within the lower Laguna Madre and Brownsville Ship Channel area, and today, Saturday, and Sunday in the Matagorda Peninsula and Port Aransas/Corpus Christi regions. Patchy moderate impacts are possible in the Galveston/Freeport area today, Saturday, and Sunday, with patchy very low impacts possible on Friday. Patchy low impacts are possible in the Matagorda Peninsula and Port Aransas/Corpus Christi regions on Friday and within the lower Laguna Madre and Brownsville Ship Channel area on Sunday. No additional impacts are expected at the coast in Texas today through Sunday, October 30. Reports of dead fish and discolored water have been received from the Galveston and Matagorda Bay regions; discolored water has also been reported in the Corpus Christi Bay area. Respiratory irritation has been reported in the Port Aransas/Mustang Island area and along South Padre Island. All Texas coastal waters have been closed to commercial and recreational oyster harvesting due to blooms of the harmful algae Karenia brevis (red tide).

Analysis

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, in the Aransas Pass area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, within the lower Laguna Madre, and within the Brownsville Ship Channel area.

Several new samples received from the Galveston Bay area indicate *Karenia brevis* concentrations ranging from 'very low b' to 'medium' within Galveston Bay, Bolivar Roads Pass, and along the coast (10/24; TPWD). One sample along the coast just outside of Bolivar Roads Pass indicates 'medium' concentrations, while three samples within the Pass indicate 'very low b' to 'low a' *K. brevis* concentrations along the east side of the Pass (10/24; TPWD). Four samples collected within the southern end of Galveston Bay indicate 'very low b' to 'low b' concentrations. One sample containing 'low b' concentrations was also collected within in the Galveston Ship Channel at the Galveston Yacht Basin (10/24; TPWD). Two samples collected within West Bay, at the south end of the Galveston Causeway and the west end of Sportsman's road, indicate that *K. brevis* is not present. Further south, 'low b' concentrations were found within San Luis Pass and Christmas Bay (10/24; TPWD). Dead fish have been reported in Campbell's Bayou and discolored water and feeding birds have been reported at the mouth of Chocolate Bay and the ICWW (10/25; TPWD).

In the Matagorda Bay region, several new samples collected at the TPWD Perry R. Bass Research Station, within the ICWW, and within Tres Palacios Bay, indicate *K. brevis* has increased to 'high' concentrations on the east side of Matagorda Bay (10/24-25; TPWD). Samples collected at Port O'Connor Little Jetties and within Saluria Bayou, indicate 'medium' concentrations remain on the west side of Matagorda Bay (10/25; TPWD). *K. brevis* has now been identified in the East Matagorda Bay area, with one 'high' sample

collected at Matagorda Harbor and one 'low a' sample collected at the north end of East Matagorda Bay (Caney Creek; 10/24; TPWD). Samples collected in central East Matagorda Bay indicate *K. brevis* concentrations ranging from not present to 'very low b' (10/24; TPWD). Two 'high' *K. brevis* concentrations were collected within San Antonio Bay (Panther Pt Reef and Victoria Barge Canal #47) and two 'low b' concentrations were collected within Espiritu Santo Bay (Josephine Reef and South Pass). One sample collected at the southwest end of San Antonio Bay indicates that *K. brevis* is not present (10/25; TPWD). Discolored water is visible from the mouth of Turtle Bay to Tres Palacios Bay, at the west end of Matagorda Bay, and within Espiritu Santo and San Antonio Bays. Dead fish have been reported at the TPWD Research Station and Josephine Reef (10/25-26; TPWD).

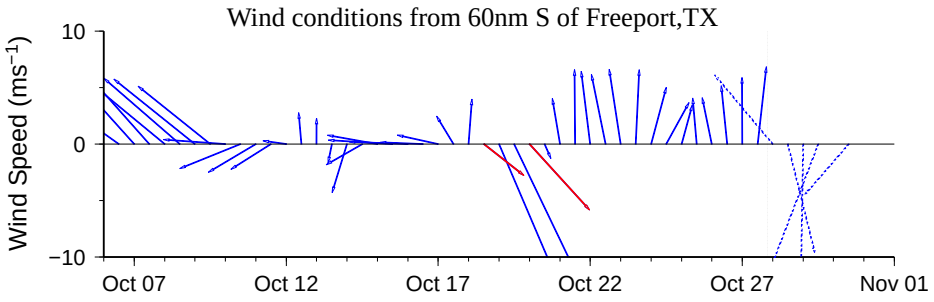
In the Aransas/Corpus Christi region, samples at the UTMSI pier and marina continue to indicate 'medium' to 'high' concentrations within Aransas Pass at the Gulf, and two 'low b' samples were collected further inside the Pass at Island Mooring and Pt of Mustang (10/24-26; TPWD). Samples collected along the perimeter of Corpus Christi Bay over the past several days indicate concentrations ranging between 'very low b' and 'high' (10/25; TPWD). 'High' concentrations are present at Indian Point Pier and off the Portland shoreline, 'medium' concentrations at Shamrock Cove, near La Quinta Channel, and at the mouth of the Corpus Christi City Channel (10/25; TPWD). Within Aransas Bay, *K. brevis* remains between not present and 'medium' concentrations as indicated by one 'medium' *K. brevis* sample collected at Fulton Harbor and 'low b' and 'very low b' concentrations collected at the St. Charles Boat Ramp and Rockport Harbor, respectively (10/24-25; TPWD). One sample collected at the Copano Bay Causeway indicates that *K. brevis* is not present (10/24; TPWD). Respiratory irritation has been reported from the Port Aransas and Mustang Island region (10/25; TPWD). Discolored water is visible inside Corpus Christi Bay, especially near Ingleside (10/26; TPWD).

No new samples have been received from the Padre Island National Seashore region, where the latest samples indicate 'high' concentrations (10/17-19; TPWD). Samples collected in the past two days indicate that *K. brevis* concentrations may have decreased at several locations in the South Padre Island area. Samples collected yesterday (10/26) alongshore South Padre Island (Gulf) from Beach Access 5 and 6 indicate *K. brevis* has decreased to 'low a' and 'low b' from medium to high concentrations previously reported in the area (10/24-25; TPWD). Concentrations also decreased from medium and high to 'low a' at the UTPA Coastal Studies Lab and Brazos Santiago Pass sample sites, and to 'very low b' at the Isla Blanca boat ramp. Several samples collected within the lower Laguna Madre also indicate that *K. brevis* concentrations have decreased from medium and high to concentrations ranging between not present and 'low b' (10/24-26; TPWD). Concentrations within the Brownsville Ship Channel at the San Martin boat ramp have also decreased (from 'high' to 'very low a') over the past few days (10/24-26; TPWD). Respiratory irritation has been reported on South Padre Island beaches north of town (10/25; TPWD).

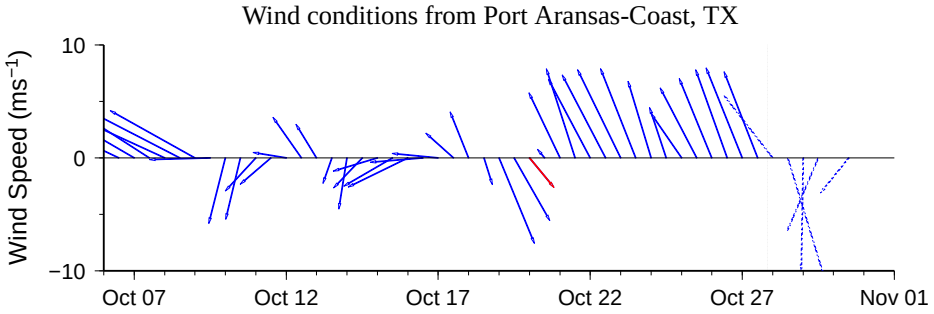
Recent imagery is cloudy along the Texas coastline, limiting analysis. In MODIS imagery from 10/26 (shown left), elevated chlorophyll (3-10 μg/L) is visible stretching along- and offshore from Sabine Pass to north of Pass Cavallo. Elevated chlorophyll (1-3 μg/L) is also visible stretching along- and offshore from Port Aransas to Brazos Santiago Pass. The area between Port Aransas and Pass Cavallo is mostly obscured by clouds in the image at left; however, MODIS imagery from 10/25 (not shown) also indicates elevated chlorophyll in this region (1-8 μg/L). Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

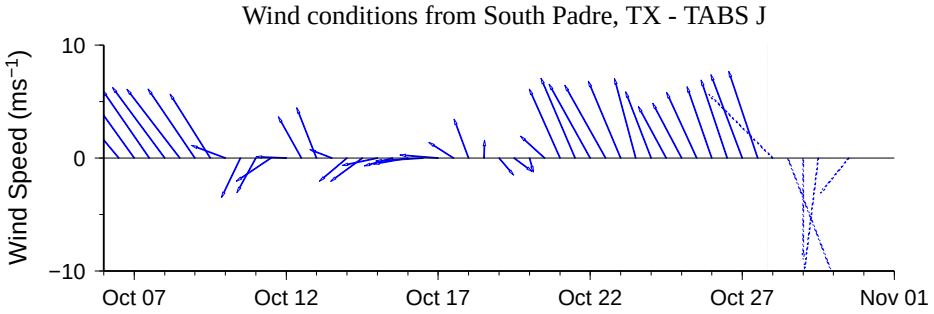
Forecast models indicate a maximum bloom transport from coastal sample locations of 40km north from the Galveston Bay region, 15-20km north from the Matagorda Peninsula and Aransas Pass regions, 10-30km north along the Padre Island National Seashore, and 90km north from Brazos Santiago Pass from October 25-30. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Derner, Kavanaugh



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



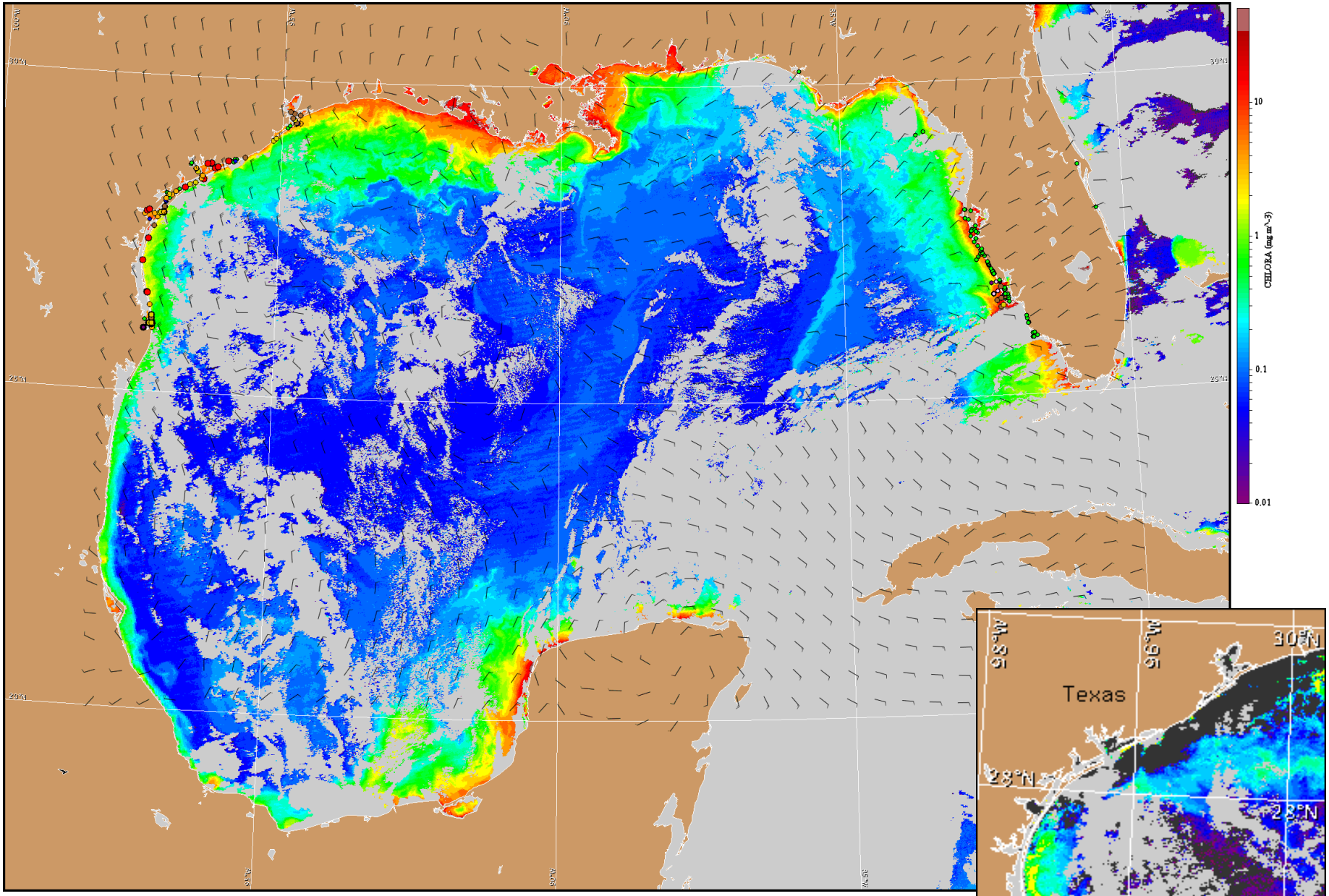


Wind Analysis

Galveston/Freeport: North winds (15-25kn, 8-13m/s) tonight and Friday. Northeast winds (5-20kn) Saturday, shifting east (5-10kn, 3-5m/s) Saturday night. East to northeast winds (5-10kn) Sunday.

Port Aransas: Southeast winds (10-15kn) this afternoon. East winds (10-15kn) tonight, shifting north (20-25kn, 10-13m/s) before midnight. North winds (15-25kn, 8-13m/s) Friday. Northeast winds (15-20kn) Saturday, becoming east later in the day through Sunday (10kn, 5m/s).

South Padre: Southeast winds (10-15kn) today becoming northwest winds (20 kn, 10 m/s) after midnight. North winds (15-25kn) Friday. East winds (10-15kn) Saturday and Sunday.



Satellite chlorophyll image and forecast winds for October 28, 2011 12Z with cell concentration sampling data from October 17 to 26 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).